JOURNAL OF CELLULAR AND COMPARATIVE PHYSIOLOGY

Board of Editors

ARTHUR K. PARPART, Managing Editor Princeton University

W. R. AMBERSON University of Maryland

H. F. BLUM National Cancer Institute

D. W. BRONK The Rockefeller Institute

L. B. FLEXNER

M. H. JACOBS University of Pennsylvania University of Pennsylvania

D. MARSLAND New York University

D. MAZIA University of California

VOLUME 57 FEBRUARY, APRIL, JUNE

PUBLISHED BY

THE WISTAR INSTITUTE OF ANATOMY AND BIOLOGY PHILADELPHIA, PA.



CONTENTS

No. 1 FEBRUARY 1961

R. G. FAUST AND A. K. PARPART. Permeability Studies on the Red Blood Cell of the Ground-Hog, Marmota monax	1
John P. Hannon, David A. Vaughan and Raymond J. Hock. The Endogenous Tissue Respiration of the Arctic Ground Squirrel as Affected by Hibernation and Season	5
KATHARINE TANSLEY, R. M. COPENHAVER AND R. D. GUNKEL. Some Aspects of the Electroretinographic Response of the American Red Squirrel, <i>Tamiosciurus hudsonicus loquax</i>	11
David Danon, Nechama Gilboa-Garber and David Nelken. Reversible and Irreversible Changes in Normal Human Thrombocyte Membranes by Slow and Rapid Swelling	21
J. DEL CASTILLO AND V. SANCHEZ. The Electrical Activity of the Amphibian Lymph Heart	29
ALEXANDER L. DOUNCE, NIRIMAL K. SARKAR AND ERNEST R. M. KAY. The Possible Role of DNA-ase I in DNA Replication	47
Y. Haneda, F. H. Johnson, Y. Masuda, Y. Saiga, O. Shimo- mura, HC Sie, N. Sugiyama and I. Takatsuki. Crystal- line Luciferin from Live Cypridina	55
No. 2 APRIL 1961	
T. Kovács, A. Kövér and G. Balogh. Studies on the Localization of Cholinesterase in Various Types of Muscle	63
A. Kövér and T. Kovács. Investigations on the Physiological Role of Myosincholinesterase in Phylogenesis	73
MICHAEL MENAKER. The Free Running Period of the Bat Clock; Seasonal Variations at Low Body Temperature	81
PHILIPP STRITTMATTER AND CORNELIUS STRITTMATTER. Electron Transport in Eggs, Developing Embryos and Adult Tissues of Spisula solidissima	87
111	

CONTENTS

Ca ⁴⁵ Uptake by Dog Erythrocytes Suspended in Sodium and Potassium Chloride Solutions	95
A. VAN HARREVELD. Asphyxial Changes in the Cerebellar Cortex	101
DAVID DANON. Osmotic Hemolysis by a Gradual Decrease in the Ionic Strength of the Surrounding Medium	111
TERENCE A. ROGERS. The Exchange of Radioactive Magnesium in Erythrocytes of Several Species	119
WILFORD L. HASLETT AND DONALD J. JENDEN. A Comparative Study of the Effect of Ryanodine on Muscle	123
No. 3 JUNE 1961	
MARTIN DAVIES. On Body Size and Tissue Respiration	135
ROGER O. ECKERT. Reflex Relationships of the Abdominal Stretch Receptors of the Crayfish. I. Feedback Inhibition of the Receptors	149
ROGER O. ECKERT. Reflex Relationships of the Abdominal Stretch Receptors of the Crayfish. II. Stretch Receptor Involvement During the Swimming Reflex	163
PIOTR POCZOPKO. A Contribution to the Studies on Changes of Energy Metabolism During Postnatal Development. I. Development of Mechanisms of Body Temperature Regulation in Rats	175
LAWRENCE GOLDMAN. The Effect of Stretch on the Conduction Velocity of Single Nerve Fibers in Aplysia	185
ABRAHAM M. SHANES. Calcium Influx in Frog Rectus Abdominus Muscle at Rest and During Potassium Contracture	193
E. L. House, Ben Pansky and M. S. Jacobs. The Effect of Alloxan Diabetes on the Blood Picture of the Hamster	203
ROBERTA M. O'DELL AND BODIL SCHMIDT-NIELSEN. Retention of Urea by Frog and Mammalian Kidney Slices in vitro	211